Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
UMTRI-2014-2		

4. Title and Subtitle	5. Report Date
Making Driving less Energy Intensive than Flying	January 2014
	6. Performing Organization Code 383818
7. Author(s) Michael Sivak	8. Performing Organization Report No. UMTRI-2014-2
9. Performing Organization Name and Address The University of Michigan Transportation Research Institute 2901 Baxter Road Ann Arbor, Michigan 48109-2150 U.S.A.	10. Work Unit no. (TRAIS) 11. Contract or Grant No.
12. Sponsoring Agency Name and Address The University of Michigan Sustainable Worldwide Transportation http://www.umich.edu/~umtriswt	13. Type of Report and Period Covered 14. Sponsoring Agency Code
15. Supplementary Notes	

16. Abstract

This report analyzes recent trends in the amount of energy needed to transport a person in the U.S. a given distance either in a light-duty vehicle or on a scheduled airline flight. After observing that the energy intensity of driving (BTU per person mile) is 57% greater than that of flying, calculations were made to estimate how much improvement would need to be achieved in either vehicle fuel economy or passenger load to make driving the less energy intensive of these two modes of transportation.

The main findings are that to make driving less energy intensive than flying, the fuel economy of the entire fleet of light-duty vehicles would have to improve from the current 21.5 mpg to at least 33.8 mpg, or vehicle load would have to increase from the current 1.38 persons to at least 2.3 persons.

The report briefly discusses the difficulties in achieving these improvements. Furthermore, it points out that, because the future energy intensity of flying will be better than it currently is, the calculated improvements underestimate the improvements that need to be achieved for driving to be less energy intensive than flying. Finally, it is emphasized that, although flying is less energy intensive than driving, flying is a viable alternative to driving only for a subset of driving trips that involve relatively long distances.

17. Key Words	18. Distribution Statement
Driving, flying, energy, intensity, vehicle fuel economy, vehicle load	Unlimited

19. Security Classification (of this report)	20. Security Classification (of this page)	21. No. of Pages	22. Price
None	None	8	